MTI Daily Operations and Calibration

I. Purpose:

The purpose of this procedure is to explain the daily operating procedures of the Multi Thermal Infrared (MTI).

II. Cautions and Hazards:

- Go to dock at ocean in pairs.
- Be careful not to fall into ocean.

III. Requirements:

- Observer PC
- “Boxcar” software
- “Tidbit” Sensor/logger
- Optic base station/ optic coupler
- Optic shuttle/ optic coupler
- Sensor cable for serial port
- Bobber
- Eyelets
- Fishing tackle (rod, reel, line)
- Tackle box for spares, log book, stop water, eyelets

IV. Procedure:

A. Operating Procedure, Do this twice daily (at 1:00 and 13:00GMT):

1. Go to Observer laptop PC and verify time is in sync with ADaM.
2. Open “Boxcar” program.
3. Connect MTI “Tidbit” logger/sensor to optic base station/ optic coupler that is attached to PC serial port.
4. Start or Maximize “Boxcar” software.
    - Click on “Logger” from toolbar
    - Click on “Launch” (should see connecting to Tidbit logger)
    - Verify **0.5 second** time internal is selected

- Verify that triggered start is checked
- Click on “Start”

5. Remove tidbit logger/sensor from optic coupler and verify that green light is flashing every **10** seconds.
6. Get fishing equipment.
7. Go to dock.
8. Hook sensor/logger to bottom of bobber & line.
9. Using **Optic coupler or a magnet** activate data collection.
    - Activate by placing on optic coupler and removing. (Verify 4 quick flashes of green light and tidbit flashing every **5** seconds)
    - During daylight, wrap Tidbit sensor in aluminum foil and tape at a point away from small hole where the sensor resides (the foil covers the hole to reflect the heat of the sun, but not the tape which may absorb heat)
10. Cast out bobber 20 meters from jetty.
    - Collection time is 30 minutes total
    - If it floats in cast it back out (the response time [time it takes for the sensor to reach surrounding water temperature] of the sensor is 2 minutes so it is important that it stays out as long as possible)
11. When 30 minutes is up, use “Shuttle” to collect data.
    - Remove sensor from bobber
    - Collect data by connecting Tidbit to optic shuttle using optic coupler
    - Press the start button on the optic shuttle
    - The xfer light should flash for a while, when finished the OK light should come on (Data now transferred to shuttle)
12. Log time, conditions, casts, etc. in log notebook.
13. Return ARCS Site with entire assembly.
14. Clean equipment.
    - Rinse rod and reel, bobber, tackle, Tidbit, optic shuttle and coupler thoroughly (use faucet outside the Lou)
    - Dry off Tidbit, optic shuttle and optic coupler
15. Go to Observer PC and connect optic shuttle to optic base station.
16. In “Boxcar” program:
    - Click on “Logger” from toolbar

- Click on “Readout” (“Optic Shuttle Readout”)
- “Save As” window will appear
- Verify that “Save in:” is **MTI_DATA** (if not, change directory to desktop/ MTI_DATA)
- Enter in “File name” **MTIyydddhh** (where: yy = year ddd = Julian day hh = GMT hour)
- Use the GMT, Julian clock/calendar in the E-van (example: “MTI0016701” year = 2000, day = 167 (15 June), hour = 01:00 GMT)
- Click on “Save”
- The “Select series to show in view” window will appear, click on OK (Graph of time vs. temperature will appear)

17. Close or minimize “Boxcar” software.

B. Once daily after the 01:00 GMT MTI session:

1. Open email program.
2. Create “New Message.”

- To: matt.parker@srs.gov,ljones@lanl.gov and CC: alfred.garrett@srs.gov
- Subject: MTI
- In text: List MTI Files titles to be attached **MTIyydddhhh.dft** (there should be 2 files listed each day, they should have the same ddd = Julian day)
- In text: Enter MTI log information (ie “windy, took 3 casts, fell in ocean, etc.)
- Attach: **MTIyydddhh.dft** from desktop/MTI_DATA/MTIyydddhh.dtf (there should be 2 files sent each day, they should have the same ddd = Julian day)
- Send email
- If email is not possible, mail floppy disk with the data for each intensive period (usually two to four files) to TWPPO.

V. References:

None.

VI. Attachments:

None.